Supplementary Materials

Food product health warnings promote dietary self-control through reductions in neural signals indexing food cue reactivity.

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EEG electrode array recording locations.

The electroencephalogram was recorded from 64 active Ag/AgCl scalp electrodes placed according to the international 10-20 system in the following locations: Fp1, Fpz, Fp2, AF7, AF3, AFz, AF4, AF8, F7, F5, F3, F1, Fz, F2, F4, F6, F8, FT7, FC5, FC3, FC1, FCz, FC2, FC4, FC6, FT8, T7, C5, C3, C1, Cz, C2, C4, C6, T8, TP7, CP5, CP3, CP1, CPz, CP2, CP4, CP6, TP8, P9, P7, P5, P3, P1, Pz, P2, P4, P6, P8, P10, PO7, PO3, POz, PO4, PO8, O1, Oz, O2, Iz.

Sample demographics and dietary behaviour.

Table S1

Descriptive statistics for sample demographics and dietary behaviour variables.

| Body mass index (kg/m²) 21.66 (0.37) 21.96 (0.5) 21.06 (0.45) 1.17 0.244 Hours fasted 6.82 (0.52) 6.83 (0.66) 6.81 (0.86) 0.01 0.999 Initial hunger rating (1-8) 4.65 (0.19) 4.73 (0.25) 4.48 (0.31) 0.61 0.544 Emotional eating (1-5; DEBQ) 2.52 (0.1) 2.59 (0.13) 2.37 (0.16) 1.09 0.283 Restrained eating (1-5; DEBQ) 3.36 (0.08) 3.32 (0.1) 3.47 (0.13) 0.94 0.355 External eating (1-5; DEBQ) 3.36 (0.08) 3.32 (0.1) 3.47 (0.13) 0.94 0.355 N (%) n (%) n (%) n (%) | | Total Sample (N = 79) | HW Group (n = 52) | Control (n = 27) | <i>t</i> (77) | p |
|---|--------------------------------------|-----------------------|----------------------|------------------|------------------|-------|
| Age 22.9 (0.6) 23.2 (0.82) 22.37 (0.75) 0.65 0.517 Body mass index (kg/m²) 21.66 (0.37) 21.96 (0.5) 21.06 (0.45) 1.17 0.246 Hours fasted 6.82 (0.52) 6.83 (0.66) 6.81 (0.86) 0.01 0.991 Initial hunger rating (1-8) 4.65 (0.19) 4.73 (0.25) 4.48 (0.31) 0.61 0.544 Emotional cating (1-5; DEBQ) 2.34 (0.08) 2.43 (0.1) 2.19 (0.13) 1.44 0.155 External eating (1-5; DEBQ) 3.36 (0.08) 3.32 (0.1) 3.47 (0.13) 0.94 0.355 External eating (1-5; DEBQ) 3.36 (0.08) 3.32 (0.1) 3.47 (0.13) 0.94 0.355 External eating (1-5; DEBQ) 3.36 (0.08) 3.32 (0.1) 3.47 (0.13) 0.94 0.355 Sex Female 52 (65.82) 34 (65.38) 18 (66.66) <0.001 1 Male 27 (34.18) 18 (34.62) 9 (33.33) Vegetable consumption N(%) n(%) n(%) U p ≤ 2 serves per day 26 (32.91) 16 (30.77) 10 (37.04) 613 0.331 3 serves per day 29 (36.71) 18 (34.62) 11 (40.74) 24 (30.38) 3 serves per day 29 (36.78) 18 (34.62) 6 (22.22) Fruit consumption ≤ 1 serve per day 2 (27.85) 13 (25) 9 (33.33) Sugar sweetened beverage consumption Do not drink 29 (36.71) 18 (34.62) 11 (40.74) 707 0.96 < 1 cup per week 31 (39.24) 23 (44.23) 8 (29.63) ≥ 1 cups per week 19 (24.05) 11 (21.15) 8 (29.63) Confectionary consumption < 1 time per week 33 (41.77) 22 (42.31) 11 (40.74) 752 0.56 1 - 2 times per week 20 (25.32) 13 (25) 7 (25.93) | | Mean (SE a) | Mean (SE) | Mean (SE) | | |
| Hours fasted 6.82 (0.52) 6.83 (0.66) 6.81 (0.86) 0.01 0.991 Initial hunger rating (1-8) 4.65 (0.19) 4.73 (0.25) 4.48 (0.31) 0.61 0.544 Emotional eating (1-5; DEBQ) 2.52 (0.1) 2.59 (0.13) 2.37 (0.16) 1.09 0.283 Restrained eating (1-5; DEBQ) 3.36 (0.08) 3.32 (0.1) 3.47 (0.13) 0.94 0.355 External eating (1-5; DEBQ) 3.36 (0.08) 3.32 (0.1) 3.47 (0.13) 0.94 0.355 Sex Female 52 (65.82) 34 (65.38) 18 (66.66) < 0.001 1 Male 27 (34.18) 18 (34.62) 9 (33.33) Vegetable consumption N(%) n (%) n (%) U p ≤ 2 serves per day 26 (32.91) 16 (30.77) 10 (37.04) 613 0.331 3 serves per day 29 (36.71) 18 (34.62) 11 (40.74) 24 serves per day 20 (25.32) 13 (25) 9 (33.33) Fruit consumption ≤ 1 serve per day 20 (25.32) 10 (19.23) 8 (29.63) Sugar sweetened beverage consumption Do not drink 29 (36.71) 18 (34.62) 11 (40.74) 707 0.96 < 1 cup per week 31 (39.24) 23 (44.23) 8 (29.63) External eating (1-5; DEBQ) 2.34 (10.15) 8 (29.63) Confectionary consumption < 1 time per week 14 (17.72) 10 (19.23) 4 (14.81) 752 0.56 1 - 2 times per week 33 (41.77) 22 (42.31) 11 (40.74) 3 - 4 times per week 20 (25.32) 13 (25) 7 (25.93) | Age | | | 22.37 (0.75) | 0.65 | 0.517 |
| Initial hunger rating (1-8) | Body mass index (kg/m ²) | 21.66 (0.37) | 21.96 (0.5) | 21.06 (0.45) | 1.17 | 0.246 |
| Emotional eating (1-5; DEBQ) 2.52 (0.1) 2.59 (0.13) 2.37 (0.16) 1.09 0.288. Restrained eating (1-5; DEBQ) 2.34 (0.08) 2.43 (0.1) 2.19 (0.13) 1.44 0.155. External eating (1-5; DEBQ) 3.36 (0.08) 3.32 (0.1) 3.47 (0.13) 0.94 0.355. N (%) n (%) n (%) n (%) | Hours fasted | 6.82 (0.52) | 6.83 (0.66) | 6.81 (0.86) | 0.01 | 0.991 |
| Restrained eating (1-5; DEBQ) 2.34 (0.08) 2.43 (0.1) 2.19 (0.13) 1.44 0.155 External eating (1-5; DEBQ) 3.36 (0.08) 3.32 (0.1) 3.47 (0.13) 0.94 0.355 N (%) n (%) n (%) n (%) x²(t) p Sex Female 52 (65.82) 34 (65.38) 18 (66.66) < 0.001 1 Male 27 (34.18) 18 (34.62) 9 (33.33) Vegetable consumption N (%) n (%) n (%) U p ≤ 2 serves per day 26 (32.91) 16 (30.77) 10 (37.04) 613 0.331 3 serves per day 29 (36.71) 18 (34.62) 11 (40.74) ≥ 4 serves per day 24 (30.38) 18 (34.62) 6 (22.22) Fruit consumption ≤ 1 serve per day 22 (27.85) 13 (25) 9 (33.33) ≥ 3 serves per day 20 (25.32) 10 (19.23) 8 (29.63) Sugar sweetened beverage consumption Do not drink 29 (36.71) 18 (34.62) 11 (40.74) 707 0.96 < 1 cup per week 31 (39.24) 23 (44.23) 8 (29.63) ≥ 1 cups per week 19 (24.05) 11 (21.15) 8 (29.63) Confectionary consumption < 1 time per week 14 (17.72) 10 (19.23) 4 (14.81) 752 0.56 1 - 2 times per week 33 (41.77) 22 (42.31) 11 (40.74) 3 - 4 times per week 20 (25.32) 13 (25) 7 (25.93) | Initial hunger rating (1-8) | 4.65 (0.19) | 4.73 (0.25) | 4.48 (0.31) | 0.61 | 0.546 |
| External eating (1-5; DEBQ) 3.36 (0.08) 3.32 (0.1) 3.47 (0.13) 0.94 0.355 N (%) n (%) n (%) n (%) | Emotional eating (1-5; DEBQ b) | 2.52 (0.1) | 2.59 (0.13) | 2.37 (0.16) | 1.09 | 0.282 |
| Sex Female 52 (65.82) 34 (65.38) 18 (66.66) < 0.001 1 Male 27 (34.18) 18 (34.62) 9 (33.33) Vegetable consumption $N(\%)$ $n(\%)$ $n(\%)$ 0 0 0 0 0 0 0 0 0 0 | Restrained eating (1-5; DEBQ) | 2.34 (0.08) | 2.43 (0.1) | 2.19 (0.13) | 1.44 | 0.155 |
| Female 52 (65.82) 34 (65.38) 18 (66.66) <0.001 1 Male 27 (34.18) 18 (34.62) 9 (33.33) Vegetable consumption N(%) n(%) n(%) U p ≤2 serves per day 26 (32.91) 16 (30.77) 10 (37.04) 613 0.331 3 serves per day 29 (36.71) 18 (34.62) 11 (40.74) ≥4 serves per day 24 (30.38) 18 (34.62) 6 (22.22) Fruit consumption ≤1 serve per day 37 (46.84) 29 (55.77) 10 (37.04) 840 0.121 2 serves per day 22 (27.85) 13 (25) 9 (33.33) ≥3 serves per day 20 (25.32) 10 (19.23) 8 (29.63) Sugar sweetened beverage consumption Do not drink 29 (36.71) 18 (34.62) 11 (40.74) 707 0.96 <1 cup per week 31 (39.24) 23 (44.23) 8 (29.63) ≥1 cups per week 19 (24.05) 11 (21.15) 8 (29.63) Confectionary consumption <1 time per week 33 (41.77) 22 (42.31) 11 (40.74) 752 0.56 1 - 2 times per week 20 (25.32) 13 (25) 7 (25.93) | External eating (1-5; DEBQ) | 3.36 (0.08) | 3.32 (0.1) | 3.47 (0.13) | 0.94 | 0.352 |
| Female 52 (65.82) 34 (65.38) 18 (66.66) <0.001 1 Male 27 (34.18) 18 (34.62) 9 (33.33) Vegetable consumption N(%) n(%) n(%) U p ≤2 serves per day 26 (32.91) 16 (30.77) 10 (37.04) 613 0.331 3 serves per day 29 (36.71) 18 (34.62) 11 (40.74) ≥4 serves per day 24 (30.38) 18 (34.62) 6 (22.22) Fruit consumption ≤1 serve per day 37 (46.84) 29 (55.77) 10 (37.04) 840 0.121 2 serves per day 22 (27.85) 13 (25) 9 (33.33) ≥3 serves per day 20 (25.32) 10 (19.23) 8 (29.63) Sugar sweetened beverage consumption Do not drink 29 (36.71) 18 (34.62) 11 (40.74) 707 0.96 <1 cup per week 31 (39.24) 23 (44.23) 8 (29.63) ≥1 cups per week 19 (24.05) 11 (21.15) 8 (29.63) Confectionary consumption <1 time per week 33 (41.77) 22 (42.31) 11 (40.74) 752 0.56 1 - 2 times per week 20 (25.32) 13 (25) 7 (25.93) | | N (%) | n (%) | n (%) | $\chi^{2}_{(1)}$ | p |
| Male 27 (34.18) 18 (34.62) 9 (33.33) Vegetable consumption N (%) n (%) n (%) U p ≤ 2 serves per day 26 (32.91) 16 (30.77) 10 (37.04) 613 0.331 3 serves per day 29 (36.71) 18 (34.62) 11 (40.74) 24 serves per day 24 (30.38) 18 (34.62) 6 (22.22) Fruit consumption ≤ 1 serve per day 37 (46.84) 29 (55.77) 10 (37.04) 840 0.121 2 serves per day 22 (27.85) 13 (25) 9 (33.33) 8 (29.63) 2 serves per day 20 (25.32) 10 (19.23) 8 (29.63) Sugar sweetened beverage consumption 9 (36.71) 18 (34.62) 11 (40.74) 707 0.96 < 1 cup per week | Sex | | | | | |
| Vegetable consumption N (%) n (%) n (%) U p ≤ 2 serves per day 26 (32.91) 16 (30.77) 10 (37.04) 613 0.331 3 serves per day 29 (36.71) 18 (34.62) 11 (40.74) | Female | 52 (65.82) | 34 (65.38) | 18 (66.66) | < 0.001 | 1 |
| | Male | 27 (34.18) | 18 (34.62) | 9 (33.33) | | |
| 3 serves per day 29 (36.71) 18 (34.62) 11 (40.74) ≥ 4 serves per day 24 (30.38) 18 (34.62) 6 (22.22) Fruit consumption ≤ 1 serve per day 37 (46.84) 29 (55.77) 10 (37.04) 840 0.121 2 serves per day 22 (27.85) 13 (25) 9 (33.33) ≥ 3 serves per day 20 (25.32) 10 (19.23) 8 (29.63) Sugar sweetened beverage consumption Do not drink 29 (36.71) 18 (34.62) 11 (40.74) 707 0.96 <1 cup per week 31 (39.24) 23 (44.23) 23 (44.23) 8 (29.63) Confectionary consumption <1 time per week 14 (17.72) 10 (19.23) 4 (14.81) 752 0.56 1 - 2 times per week 20 (25.32) 13 (25) 7 (25.93) | Vegetable consumption | N (%) | n (%) | n (%) | $oldsymbol{U}$ | p |
| ≥ 4 serves per day 24 (30.38) 18 (34.62) 6 (22.22) Fruit consumption ≤ 1 serve per day 37 (46.84) 29 (55.77) 10 (37.04) 840 0.121 2 serves per day 22 (27.85) 13 (25) 9 (33.33) ≥ 3 serves per day 20 (25.32) 10 (19.23) 8 (29.63) Sugar sweetened beverage consumption Do not drink 29 (36.71) 18 (34.62) 11 (40.74) 707 0.96 <1 cup per week 31 (39.24) 23 (44.23) 8 (29.63) ≥ 1 cups per week 19 (24.05) 11 (21.15) 8 (29.63) Confectionary consumption <1 time per week 14 (17.72) 10 (19.23) 4 (14.81) 752 0.56 1 - 2 times per week 33 (41.77) 22 (42.31) 11 (40.74) 3 - 4 times per week 20 (25.32) 13 (25) 7 (25.93) | ≤ 2 serves per day | 26 (32.91) | 16 (30.77) | 10 (37.04) | 613 | 0.331 |
| Fruit consumption ≤1 serve per day 37 (46.84) 29 (55.77) 10 (37.04) 840 0.121 2 serves per day 22 (27.85) 13 (25) 9 (33.33) ≥3 serves per day 20 (25.32) 10 (19.23) 8 (29.63) Sugar sweetened beverage consumption Do not drink 29 (36.71) 18 (34.62) 11 (40.74) 707 0.96 <1 cup per week 31 (39.24) 23 (44.23) 8 (29.63) ≥1 cups per week 19 (24.05) 11 (21.15) 8 (29.63) Confectionary consumption <1 time per week 14 (17.72) 10 (19.23) 4 (14.81) 752 0.56 1 - 2 times per week 33 (41.77) 22 (42.31) 11 (40.74) 3 - 4 times per week 20 (25.32) 13 (25) 7 (25.93) | 3 serves per day | 29 (36.71) | 18 (34.62) | 11 (40.74) | | |
| ≤1 serve per day 37 (46.84) 29 (55.77) 10 (37.04) 840 0.121 2 serves per day 22 (27.85) 13 (25) 9 (33.33) ≥3 serves per day 20 (25.32) 10 (19.23) 8 (29.63) Sugar sweetened beverage consumption Do not drink 29 (36.71) 18 (34.62) 11 (40.74) 707 0.96 <1 cup per week 31 (39.24) 23 (44.23) 8 (29.63) ≥1 cups per week 19 (24.05) 11 (21.15) 8 (29.63) Confectionary consumption <1 time per week 14 (17.72) 10 (19.23) 4 (14.81) 752 0.56 1 - 2 times per week 33 (41.77) 22 (42.31) 11 (40.74) 3 - 4 times per week 20 (25.32) 13 (25) 7 (25.93) | ≥ 4 serves per day | 24 (30.38) | 18 (34.62) | 6 (22.22) | | |
| 2 serves per day 22 (27.85) 13 (25) 9 (33.33) ≥ 3 serves per day 20 (25.32) 10 (19.23) 8 (29.63) Sugar sweetened beverage consumption Do not drink 29 (36.71) 18 (34.62) 11 (40.74) 707 0.96 < 1 cup per week | Fruit consumption | | | | | |
| ≥ 3 serves per day 20 (25.32) 10 (19.23) 8 (29.63) Sugar sweetened beverage consumption Do not drink 29 (36.71) 18 (34.62) 11 (40.74) 707 0.96 <1 cup per week 31 (39.24) ≥1 cups per week 19 (24.05) 11 (21.15) 8 (29.63) Confectionary consumption <1 time per week 14 (17.72) 10 (19.23) 4 (14.81) 752 0.56 1 - 2 times per week 33 (41.77) 22 (42.31) 11 (40.74) 3 - 4 times per week 20 (25.32) 13 (25) 7 (25.93) | ≤ 1 serve per day | 37 (46.84) | 29 (55.77) | 10 (37.04) | 840 | 0.121 |
| Sugar sweetened beverage consumption Do not drink 29 (36.71) 18 (34.62) 11 (40.74) 707 0.96 < 1 cup per week 31 (39.24) 23 (44.23) 8 (29.63) ≥ 1 cups per week 19 (24.05) 11 (21.15) 8 (29.63) Confectionary consumption < 1 time per week 14 (17.72) 10 (19.23) 4 (14.81) 752 0.56 1 - 2 times per week 33 (41.77) 22 (42.31) 11 (40.74) 3 - 4 times per week 20 (25.32) 13 (25) 7 (25.93) | 2 serves per day | 22 (27.85) | 13 (25) | 9 (33.33) | | |
| Do not drink 29 (36.71) 18 (34.62) 11 (40.74) 707 0.96 <1 cup per week 31 (39.24) 23 (44.23) 8 (29.63) ≥1 cups per week 19 (24.05) 11 (21.15) 8 (29.63) Confectionary consumption 4 (14.81) 752 0.56 1 - 2 times per week 33 (41.77) 22 (42.31) 11 (40.74) 3 - 4 times per week 20 (25.32) 13 (25) 7 (25.93) | ≥3 serves per day | 20 (25.32) | 10 (19.23) | 8 (29.63) | | |
| < 1 cup per week | Sugar sweetened beverage consumption | | | | | |
| ≥ 1 cups per week 19 (24.05) 11 (21.15) 8 (29.63) Confectionary consumption < 1 time per week 14 (17.72) 10 (19.23) 4 (14.81) 752 0.56 1 - 2 times per week 33 (41.77) 22 (42.31) 11 (40.74) 3 - 4 times per week 20 (25.32) 13 (25) 7 (25.93) | Do not drink | 29 (36.71) | 18 (34.62) | 11 (40.74) | 707 | 0.96 |
| Confectionary consumption < 1 time per week | < 1 cup per week | 31 (39.24) | 23 (44.23) | 8 (29.63) | | |
| < 1 time per week | ≥ 1 cups per week | 19 (24.05) | 11 (21.15) | 8 (29.63) | | |
| 1 – 2 times per week 33 (41.77) 22 (42.31) 11 (40.74) 3 – 4 times per week 20 (25.32) 13 (25) 7 (25.93) | Confectionary consumption | | | | | |
| 3 – 4 times per week 20 (25.32) 13 (25) 7 (25.93) | < 1 time per week | 14 (17.72) | 10 (19.23) | 4 (14.81) | 752 | 0.56 |
| • | 1 – 2 times per week | 33 (41.77) | 22 (42.31) | 11 (40.74) | | |
| \geq 5 times per week 12 (15.19) 7 (13,46) 5 (18.51) | 3 – 4 times per week | 20 (25.32) | 13 (25) | 7 (25.93) | | |
| | ≥ 5 times per week | 12 (15.19) | 7 (13,46) | 5 (18.51) | | |

^a SE = Standard error. ^b DEBQ = Dutch Eating Behavior Questionnaire (van Strien et al., 1986).